Doc# NSCS-M-P-7091-06
Title: Iron and Turbidity Test
Issue Dt: 12/30/2003
Revision Dt:07/20/2018 Review Interval:12
Cat: Quality Doc Type: SOP
Auth:
Desc: Iron and Turbidity Test
Loc: Midwest - Utilities-Midwest - Plant Maintenance-Midwest-Gary Works

STEPS	PROCEDURES
Process Overview	The Final Treatment Plant effluent at Outfall 104 is tested for total iron and turbidity using a Hach meter. The treatment plant is not controlled by the total iron test results. Instead, the total iron test is an indicator that the treatment plant is not working properly and some other control process needs Operator attention. The turbidity test is used to tell the Operator about plant operating conditions and potential sources of problems. Once again, the turbidity test is not used to actually control the plant. It is an indicator that the treatment plant is not working properly and needs Operator attention. See the sections below for specific details on corrective actions and data interpretation. Neither total iron nor turbidity are NPDES permit or reporting parameters.
Testing for Turbidity	The final treatment plant operator should use the following procedures for turbidity: 1. Secure a sample at Outfall 104. 2. Turn the meter on by pushing the **POWER** button. 3. Transfer 10 mg of the sample into a clean glass cell. 4. Insert test vial into the meter. 5. Read value from meter. 6. Record reading on Form #7091-01. 7. Empty, rinse and clean glass cell. 8. Perform turbidity test 4 times per turn.
Testing for Total Iron	Final treatment plant operator should use the following procedure for testing total iron: 1. Secure a sample at Outfall 104. 2. Add 2% nitric acid to the sample. 3. Turn on the meter using the power button. 4. Zero the meter using distilled/tap water. 5. Transfer 10 mL of sample into emptied glass cell. 6. Add contents of Hach Fero pack to the 10 mL sample. 7. Insert sample cell into Hach meter 8. Wait 3 minutes (timer on the meter) 9. Press “close” button. 10. Press “read” button. 11. Read value from meter.

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12. Empty, rinse and clean glass cell.
13. Record reading on Form #7091-01.
14. Perform Total Iron test 4 times per turn.

Corrective Actions

If the total iron is greater than .70 mg/l, the treatment plant is not working properly. Inspect the mix tank pH control, and outfall. Also review SOP NSCS-M-P-7091-01, 09, 10 and 12 for detailed corrective actions.

If the turbidity is greater than 10 NTU's the treatment plant is not working properly. Inspect the mix tank pH control, and outfall. Also review SOP's NSCS-M-P-7091-01, 09, 10 and 12 for detailed corrective actions.